IN THE CLAIMS:

Claims 1 through 17, 19, 28, 32, 35, and 38 were previously cancelled. Claims 20-27, 29-31, 33, 34, 36, 37 and 39-42 have been amended herein. All of the pending claims are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

1.-17. (Cancelled)

18. (Previously presented) An evaporator for a heat transfer system, the evaporator comprising:

a heated wall;

a liquid barrier wall adjacent to and surrounding the heated wall, the liquid barrier wall and the heated wall being configured to contain working fluid between adjacent sides of the heated wall and the liquid barrier wall;

a primary wick positioned between the adjacent sides of the heated wall and the liquid barrier wall;

a vapor removal channel that is located at an interface between the primary wick and the heated wall;

a liquid flow channel located between the liquid barrier wall and the primary wick;

a secondary wick between the liquid flow channel and the primary wick; and

a vapor vent channel at an interface between the secondary wick and the primary wick.

19. (Cancelled)

20. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the primary wick has a thermal conductivity that is low enough to at least substantially prevent the formation of vapor bubbles in the liquid flow channel caused by leakage of heat from the heated wall, through the primary wick, toward the liquid barrier wall.

21. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the heated wall is defined so as to accommodate the vapor removal channel.

22. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the interface between the primary wick and the adjacent side of the heated wall is defined so as to accommodate the vapor removal channel.

23. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein a cross section of the vapor removal channel is sufficient to maintain a pressure difference between the vapor removal channel and the liquid flow channel across the primary wick.

24. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the heated wall is in intimate contact with the primary wick.

25. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein a thickness of the heated wall is selected to ensure at least substantially complete vaporization at the interface between the primary wick and the heated wall.

26. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the liquid flow channel supplies the primary wick with liquid from a liquid inlet.

27. (Currently amended) The evaporator of ~~claim 26~~ claim 26, wherein the liquid flow channel is configured to supply the primary wick with enough liquid to offset liquid vaporized at the interface between the primary wick and the heated wall and liquid vaporized at the liquid barrier wall.

28. (Cancelled) The evaporator of claim 1 further comprising:

a secondary wick between the vapor removal channel and the primary wick; and

a vapor vent channel at an interface between the secondary wick and the primary wick.

29. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the secondary wick comprises an opening wherein at least one vapor bubble formed within the vapor vent channel is swept through the secondary wick and through the liquid flow channel.

30. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the vapor vent channel delivers vapor that has vaporized within the primary wick away from the primary wick.

31. (Currently amended) The evaporator of ~~claim 18~~ claim 18, wherein the primary wick, the heated wall, and the liquid barrier wall are annular and coaxial such that the heated wall is inside the primary wick and the primary wick is inside the liquid barrier wall.

32. (Cancelled)

33. (Currently amended) A heat transfer system comprising:

an evaporator including:

a heated wall;

a liquid barrier wall adjacent to and surrounding the heated wall, the liquid barrier wall and the heated wall being configured to contain working fluid between adjacent sides of the heated wall and the liquid barrier wall;

a primary wick positioned between the adjacent sides of the heated wall and the liquid barrier wall;

a vapor removal channel that is located at an interface between the primary wick and the heated wall, the vapor removal channel extending to a vapor outlet; ~~and~~

a liquid flow channel located between the liquid barrier wall and the primary wick, the liquid flow channel receiving liquid from a liquid inlet;

a secondary wick between the liquid flow channel and the primary wick; and

a vapor vent channel at an interface between the secondary wick and the primary ~~wick~~ wick;

a condenser having a vapor inlet and a liquid outlet;

a vapor line providing fluid communication between the vapor outlet and the vapor inlet; and

a liquid return line providing fluid communication between the liquid outlet and the liquid inlet.

34. (Currently amended) The heat transfer system of ~~claim 33~~ claim 33, further comprising a reservoir in the liquid return line.

35. (Cancelled)

36. (Currently amended) The heat transfer system of ~~claim 33~~ claim 33, wherein the secondary wick comprises an opening wherein at least one vapor bubble formed within the vapor vent channel is swept through the secondary wick, through the liquid flow channel, and into the reservoir.

37. (Currently amended) The heat transfer system of ~~claim 34~~ claim 34, wherein the reservoir comprises heat exchanger fins to cold bias the reservoir.

38. (Cancelled)

39. (Currently amended) The heat transfer system of ~~claim 33~~ claim 33, wherein the evaporator is annular such that the heated wall is inside the primary wick and the primary wick is inside the liquid barrier wall.

40. (Currently amended) The heat transfer system of ~~claim 33~~ claim 33, wherein the condenser is configured to subcool the liquid returning into the evaporator.

41. (Currently amended) The heat transfer system of ~~claim 40~~ 40, wherein the condenser is configured to subcool the liquid to a temperature to balance ~~the heat~~ heat leakage through the primary wick.

42. (Currently amended) The heat transfer system of ~~claim 33~~ claim 33, wherein the heated wall contacts a hot side of a Stirling cooling machine.